DIRECT TESTIMONY

OF

HUBERT C. YOUNG, III

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2008-196-E

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Hubert C. Young, III, and my business address is 601 Old Taylor Road, MC J137, Cayce, SC 29033.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am presently the Manager of Transmission Planning for South Carolina Electric & Gas Company ("SCE&G" or "Company").

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I am a graduate of Clemson University with a Bachelor of Science degree in Electrical and Computer Engineering. I am a registered Professional Engineer in the state of South Carolina.

I began working for the Company in 1975, and during my career with SCE&G, I have held a number of positions in the Engineering Computer Support Department and Transmission Planning.

Q. ARE YOU A MEMBER OF ANY INDUSTRY COMMITTEES FOR SYSTEM RELIABILITY ASSESSMENT OR PLANNING?

A. I am currently a member of the North American Electric Reliability Corporation ("NERC") Reliability Assessment Subcommittee ("RAS"), NERC Standards Authorization Request ("SAR") Ballot Body, SERC Inc. (formally known as the Southeastern Electric Reliability Council) Engineering Committee, SERC Engineering Committee Executive Committee, SERC Reliability Review Subcommittee, SERC Regional Studies Executive Committee, VACAR/Southern/TVA/Entergy ("VSTE") Executive Committee where I currently serve as chairman, and the VACAR (Virginia/Carolinas – includes SCE&G, Duke Power, Progress Energy Carolina, Virginia Power, Santee Cooper, SEPA, NCEMC, and Fayetteville, NC) Executive Committee.

All of these committees are directly involved with setting reliability standards for the electric power industry or assessing the current and future capabilities of the integrated transmission grid in North America, the southeast, and the Virginia/Carolinas.

Q. PLEASE SUMMARIZE YOUR DUTIES AS MANAGER OF TRANSMISSION PLANNING WITH THE COMPANY.

A. I oversee the planning and associated analyses of the South Carolina Electric & Gas electric transmission system and all interconnection transmission facilities with neighboring utilities to ensure a reliable and cost effective delivery of electric power to SCE&G customers while developing and maintaining strategically supportive infrastructure to sustain and further South Carolina's economic development and the Company's financial integrity.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA ("COMMISSON")?

A. On many occasions, I have testified before the Commission on behalf of SCE&G regarding various electric transmission issues. Most recently, I presented testimony in Docket No. 2005-58-E relating to construction of 230kV lines and a substation located near Hopkins, South Carolina. I also testified in Docket No. 2002-284-E relating to the necessity for construction of transmission lines to safely, reliably and cost effectively route electricity from the Company's Jasper generation facility.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to discuss the need for and the projected cost of constructing new transmission facilities required to support SCE&G's application to build two new nuclear power plants at V.C. Summer Nuclear Station ("VCSNS").

I will testify concerning certain transmission interconnection studies performed by the Company. The Company has provided the transmission interconnection studies required by Commission Order No. 2002-19 for the proposed transmission facilities as Exhibit Q to the Combined Application in this proceeding. I have included copies of these studies as exhibits to my testimony which are identified as follows:

Exhibit Q-1 (Exhibit No. __ (HCY-1)) *Generator Interconnection System Impact Study for SCE&G V.C. Summer Nuclear #2,* which is identical to Exhibit Q-1 to the Combined Application.

Exhibit Q-2 (Exhibit No. __ (HCY-2)) *Generator Interconnection System Impact Study for SCE&G V.C. Summer Nuclear #3,* which is identical to Exhibit Q-2 to the Combined Application.

Exhibit Q-3 (Exhibit No. __ (HCY-3)) *Generator Interconnection Facilities Study SCE&G V.C. Summer Nuclear #2,* which is identical to Exhibit Q-3 to the Combined Application.

Exhibit Q-4 (Exhibit No. __ (HCY-4)) *Generator Interconnection Facilities Study SCE&G V.C. Summer Nuclear #3 – Revision #2,* which is identical to Exhibit Q-4 to the Combined Application.

I have also included as exhibits to my testimony copies of two additional studies which are as follows:

Exhibit No. __ (HCY-5) *Generator Interconnection Feasibility Study for SCE&G V.C. Summer Nuclear #2.*

Exhibit No. __ (HCY-6) *Generator Interconnection Feasibility Study for SCE&G V.C. Summer Nuclear #3 Version #2.*

Q. WHAT CRITERIA DOES SCE&G USE TO DETERMINE WHEN NEW TRANSMISSION FACILITIES ARE NEEDED?

A. The Company uses external and internal criteria to guide its decision-making related to the development of new transmission facilities. Externally, our Company subscribes to the Transmission Planning Standards established by NERC (see **Exhibit No. __ (HCY-7)**) and internally SCE&G adheres to its Long Range Planning Criteria (see **Exhibit No. __ (HCY-8)**). In accordance with these criteria, the SCE&G Transmission System is designed such that during any of the following contingencies, only short-time overloads, low voltages, and local loss of load will occur. After appropriate switching and re-dispatching, all non-radial loads can again be served with reasonable voltages, and all facilities can again operate within acceptable limits. A *sample* of contingencies considered includes:

1. Loss of any generator;
2. Loss of any transmission circuit operating at a voltage level of 115kV or above;

3. Loss of any transmission transformer;

4. Loss of any electrical bus and associated facilities operating at a voltage level of 115kV or above;

5. Loss of entire generating capacity in any one plant;

6. Loss of all circuits on a common structure;

7. Loss of any generating unit simultaneously with the loss of a single transmission line;

8. Loss of all components associated with a breaker failure; and

9. Loss of any generator, transmission circuit, or transmission transformer, followed by manual system adjustments, followed by the loss of another generator, transmission circuit, or transmission transformer.

Q. HOW DOES TRANSMISSION PLANNING DETERMINE WHAT TYPES OF TRANSMISSION FACILITIES ARE REQUIRED TO SERVE A GENERATION FACILITY?

A. Pursuant to the Federal Energy Regulatory Commission's Large Generator Interconnection Rule, which is also known as Order No. 2003, electric utilities such as SCE&G are required to conduct various studies to determine what transmission facilities will be necessary to interconnect proposed generating facilities with an output capacity of twenty (20) megawatts or more. These studies are conducted in three phases which consist

of a “Generator Interconnection Feasibility Study,” a “Generator Interconnection System Impact Study,” and a “Generator Interconnection Facilities Study.”

The Generator Interconnection Feasibility Study is the first step in the analysis and is intended to be a preliminary study to aid the interconnection customer in determining whether the proposed generator remains feasible, considering transmission constraints, and whether the Company desires more detailed and more costly studies. Generator Interconnection Feasibility Studies are not intended to determine the final facilities needed and costs of interconnecting the generator to the existing system, but provide the interconnection customer with a basic analysis to assist in determining whether it wants to pursue the project.

The Generator Interconnection System Impact Study is an extension of the Feasibility Study and consists of a more detailed study of the transmission owner’s transmission system which considers the full impact of the proposed new generation on system performance during normal and contingency conditions. With respect to the generation facilities proposed in this proceeding, Transmission Planning considered a full test of the NERC Reliability Standards Table 1 and the SCE&G Long Range Planning Criteria.

The Generator Interconnection Facilities Study is the final phase of the analysis process and specifies and estimates the cost of the equipment, engineering, procurement and construction work needed to implement the

conclusions of the Generator Interconnection System Impact Study in accordance with good utility practices to physically and electrically connect the interconnection facility to the transmission system. The study also identifies the electrical switching configuration of the connection equipment including, but not limited to, transformers, switchgear, meters and other station equipment. The study further analyzes the nature and estimated cost of any transmission provider's interconnection facilities and network upgrades necessary to accomplish the interconnection and estimates the time required to complete the construction and installation of such facilities.

Q. DOES SCE&G UTILIZE ANY COMPUTER PROGRAMS TO ASSIST IT WITH CONDUCTING THESE TRANSMISSION STUDIES?

A. In order to execute these types of studies, Transmission Planning uses the Power System Simulator for Engineering (PSS™E) developed by Siemens. PSS™E is the premier software tool used by electrical transmission participants world-wide. The power flow analyses and advanced dynamics modeling capabilities included in PSS™E provide transmission planning and operations engineers a broad range of methodologies for use in the design and operation of reliable networks. PSS™E is the industry standard for electrical transmission analysis and is used by 115 countries. It is widely recognized as a leading commercial transmission program.

Q. HAS THE COMPANY PERFORMED THESE STUDIES IN RELATION TO THE PROPOSED GENERATING FACILITIES?

A. Yes. Transmission Planning has performed Generator Interconnection Feasibility Studies, Generator Interconnection System Impact Studies and Generator Interconnection Facilities Studies relating to the transmission facilities necessary to interconnect both the Unit 2 and Unit 3 generating facilities proposed at VCSNS. As indicated in these reports, which I have previously identified as exhibits to my testimony, Transmission Planning analyzed the proposed generator design for Unit 2 and Unit 3. As originally considered, each generator unit was proposed to have a maximum gross output capacity of 1,375 megavolt amperes ("MVA") and a maximum net megawatt capacity of 1,165 megawatts. Subsequently, the Company determined that the generation facilities would be designed to have a maximum net megawatt capacity of 1,117 megawatts each. The reduction in megawatt capacity has not impacted the transmission analysis or Transmission Planning's recommendations as to the facilities necessary to serve these Units.

Q. WHY ARE ADDITIONAL TRANSMISSION FACILITIES ASSOCIATED WITH THE PROPOSED NUCLEAR FACILITIES NEEDED?

A. Currently, the 644 megawatts (SCE&G's portion) of electricity generated at VCSNS Unit 1 is routed to SCE&G's distribution system by way

of six (6) 230kV transmission lines. The proposed generating facilities will be jointly owned by SCE&G and Santee Cooper with 55% of the output available to SCE&G's customers. With the proposed net addition of 2,234 megawatts for VCSNS Units 2 and 3, of which SCE&G will be entitled to 55% or approximately 1,229 megawatts, additional transmission facilities will be required to maintain system reliability and to safely route SCE&G's portion of the power flowing from these plants to its existing and future customers.

Q. HOW DID THE COMPANY ANALYZE THE INTERCONNECTION OF UNIT 2?

A. Using the PSS™E software that I have previously described, SCE&G Transmission Planning performed analyses simulating three types of scenarios where power generated from Unit 2 was added to the Company's system assuming peak summer conditions projected in year 2015. The first scenario simulated base case conditions where the Company analyzed the transmission system under normal operating conditions assuming that all facilities are available. The second scenario simulated the operation of the system in the event of any single facility outage of each transmission facility on the SCE&G system. The third scenario simulated all combinations of the loss of any two facilities on SCE&G's transmission system.

Based upon these simulations, SCE&G's analysis demonstrates that it will be necessary to construct two new 230kV lines from the proposed VCSNS

plant site to the Columbia load center in order to reliably transmit the power to SCE&G's customers. One of these two lines is required to route power from the VCSNS plant site to the Columbia northeast area connecting to the existing Killian 230kV substation. The other line is required to route power to the Lexington and Irmo areas connecting to the existing Lake Murray 230kV substation. Further, as described in **Exhibit Q-1 (Exhibit No. __ (HCY-1))** *Generator Interconnection System Impact Study for SCE&G V. C. Summer Nuclear #2*, additional transmission improvements would be necessary to include the following:

- Construct VC Summer #2-VC Summer 1 Bus #2 and Bus #3.
- Construct a new 230kV generator substation at the proposed site for VCSNS Unit 2 with ten (10) 230kV terminals requiring eighteen (18) 230kV breakers.
- Add four (4) 230kV terminals at remote substations.
- Upgrade the existing Denny Terrace-Lyles 230kV line to B1272.
- Add two (2) 230/115kV 336 MVA auto transformers.
- Upgrade three (3) existing 115kV lines.
- Add a 230kV bus tie breaker at Denny Terrace.
- Re-terminate existing lines in the VCSNS area to the existing Unit 1 substation or the new Unit 2 substation.

- Replace several 230kV and 115kV breakers with higher interrupting capability breakers to resolve overstressed conditions.

With these modifications, the study demonstrates that the proposed VCSNS Unit 2 generator interconnection to the SCE&G system will be compliant with NERC Reliability Standards and SCE&G's Long Range Planning Criteria.

Q. WOULD THE PROPOSED FACILITIES SERVE SYSTEM ECONOMY?

A. Yes, the proposed facilities would serve system economy in that it is the least expensive proposal and is the best long-term solution for transmission of the additional electric power.

Q. WHY IS THIS PROPOSAL THE BEST ALTERNATIVE?

A. SCE&G Transmission Planning considered several alternatives to provide the needed improvement. **Exhibit No. __ (HCY-5)** *Generator Interconnection Feasibility Study for SCE&G V.C. Summer Nuclear #2* describes the analyses performed in association with these alternatives.

Initially, SCE&G analyzed its transmission system and considered the alternative of upgrading or rebuilding its existing facilities. The first part of the analysis was conducted assuming no upgrades of the system. This

simulation resulted in multiple overload and high load conditions. In order to address the simulated overload conditions of the system, SCE&G considered upgrading three 230kV lines and upgrading two of the four major transmission lines leaving VCSNS to the Columbia load center. Despite these simulated improvements, this analysis demonstrated that the system would still experience significant overloads.

To address this problem, SCE&G next considered rebuilding all four (4) 230kV lines from VCSNS serving the Columbia load center. Upgrading these lines would require the removal of existing facilities which would result in the loss of the transmission capacity associated with these existing lines. The net effect of this upgrade would be to receive only 50% of the capability of the new transmission improvements at the cost of eliminating existing lines which still have remaining useful life. Because of these considerable issues and increased cost, SCE&G determined these alternatives were not a cost effective solution.

Q. HAS THE TRANSMISSION PLANNING GROUP ESTIMATED A COST ASSOCIATED WITH THESE FACILITIES?

A. Yes. The estimated cost to upgrade and install the necessary transmission facilities in accordance with the study, assuming an escalation in cost of 4% per year, is $132,640,000. As adjusted to reflect the appropriate contingency and escalation in the Handy-Whitman All Transmission Plant

Index, South Atlantic Region and removal of switchyard costs included in the Engineering, Procurement and Construction Agreement ("EPC Contract"), the estimated cost is $136,201,157. SCE&G anticipates that these facilities would be constructed and in service by the end of year 2015.

Q. IS THE COMPANY PROPOSING ANY MODIFICATION OF THIS ORIGINAL ROUTING PLAN?

A. Yes. As the Commission is aware, the northeastern portion of Richland County is one of the fastest growing areas served by SCE&G. SCE&G's Transmission Planning Group expects the load along the I-77 corridor will continue to grow rapidly and will exceed the 81 megawatt additional capability of the current transmission system in this area. For these reasons, as indicated in **Exhibit Q-1 (Exhibit No. __ (HCY-1))** *Generator Interconnection System Impact Study for SCE&G V. C. Summer Nuclear #2*, at page 22, SCE&G is proposing to adjust the VCSNS Unit 2 generator interconnection plan to consider future native load needs in this area by routing the VC Summer – Killian 230kV transmission line from VCSNS to Winnsboro and then to Killian. This routing will extend the 230kV line with relatively little additional cost and will provide the cornerstone of service along the I-77 corridor for many years in the future.

Q. WHAT MODIFICATIONS TO THE PROPOSED FACILITIES WILL BE REQUIRED FOR THIS NATIVE LOAD ADJUSTMENT?

A. In order for the transmission system to adequately handle the power output of the VCSNS Unit 2 and to improve system capability along the I-77 corridor, Transmission Planning proposes to route the VCSNS to Killian 230kV line through the Winnsboro area and then along the general path of Interstate-77 to the Columbia northeast area.

Q. WILL THE TRANSMISSION FACILITIES AS MODIFIED INCREASE THE COST OF THESE TRANSMISSION FACILITIES?

A. In order to safely, reliably and cost effectively transmit the electricity generated from Unit 2, Transmission Planning originally proposed a new VC Summer – Killian 230kV line at a cost of approximately $35,000,000. Transmission Planning estimates that rerouting the new line will increase the cost of the project by approximately $12,170,000 for a total cost of the VC Summer – Winnsboro – Killian line of approximately $47,170,000.

Q. IS THE ENTIRE COST OF THE SUMMER – WINNSBORO – KILLIAN LINE ASSOCIATED WITH UNIT 2?

A. No. The VCSNS Nuclear construction project will be charged based on the cost of the line as originally routed, and will not include the cost to route the 230kV line from VCSNS to Winnsboro and then to Killian. The estimated

cost of the line as originally routed is 74.2% of the estimated cost of the rerouted line and SCE&G is proposing to treat only this portion as the cost of interconnecting the nuclear project. SCE&G anticipates that it would seek recovery of the remaining 25.8% of the costs in a future general rate proceeding.

Q. HOW DID THE COMPANY ANALYZE THE INTERCONNECTION OF UNIT 3?

A. The Transmission Planning Group performed the same type of analysis as was performed relating to Unit 2. The Unit 3 analysis assumed that the Unit 2 generator was online and the transmission improvements associated with Unit 2 were in-service. Additionally, however, in determining how best to route the available power to the system, SCE&G analyzed the projected load of both the Charleston and Columbia load centers. Based on Transmission Planning's 2016 system model, the Columbia area will have a projected load of 2,110 megawatts and the Charleston area will have a projected load of 1,960 megawatts. Including the generation from VCSNS Units 2 and 3, SCE&G projects that there will be a total of 4,317 megawatts of generation capacity in the Columbia area and 857 megawatts of generation in the Charleston area. This results in generation in the Columbia area being greater than the load by 2,207 megawatts and generation in the Charleston area being less than the load by 1,103 megawatts. Therefore, SCE&G Transmission Planning addressed this

concern when analyzing the necessary transmission facilities in order to balance the distribution of power between these two load centers.

Based upon these simulations, SCE&G's analysis demonstrates that two new 230kV lines from the proposed VCSNS Unit 3 generator to near the Charleston area load center are needed to reliably transmit SCE&G's portion of the proposed 1,117 megawatts of power to the remainder of SCE&G's system. Additionally, routing this power towards the Charleston load center will alleviate the potential generation/load disparities in this area. These two lines will originate at the new Unit 2 and Unit 3 substation and terminate at the new St. George 230kV substation. Further, as described in **Exhibit Q-2 ((Exhibit No. __ (HCY-2))** *Generator Interconnection System Impact Study for SCE&G V. C. Summer Nuclear # 3,* additional transmission improvements would include the following:

- Construct VC Summer New-VC Summer #1 Bus #1.
- Establish a St. George 230kV Substation.
- Fold-in two (2) existing 230kV lines at St. George 230kV.
- Upgrade two (2) existing 230kV lines.
- Upgrade the Saluda-Georgia Pacific 115kV Double Circuit line.
- Install a 230kV Series Reactor on the VCSNS Unit 1 Newport (Duke) 230kV line.

- Add six (6) terminals (eight (8) breakers) to the VCSNS New Substation.
- Replace several 230kV and 115kV breakers with higher interrupting capability breakers to resolve overstressed conditions.

With these system upgrades, the study demonstrates that the proposed VCSNS Unit 3 generator interconnection to the SCE&G system will be compliant with NERC Reliability Standards and SCE&G's Long Range Planning Criteria.

Q. DO THE PROPOSED FACILITIES FOR VCSNS UNIT 3 ALSO SERVE SYSTEM ECONOMY?

A. Yes, the proposed facilities would serve system economy in that it is the least expensive proposal and is the best long-term solution for transmission of the additional electric power.

Q. WHY IS THIS PROPOSAL THE BEST ALTERNATIVE?

A. SCE&G Transmission Planning considered several alternatives to provide the needed improvement. **Exhibit No. __ (HCY-6)** *Generator Interconnection Feasibility Study for SCE&G V.C. Summer Nuclear #*3 *Version #2* describes the analyses performed in association with these alternatives.

The first analysis was conducted assuming no upgrades of the system. This simulation resulted in multiple overload and high load conditions. In order to address the simulated overload conditions of the system, SCE&G considered upgrading two of the six major transmission lines leaving VCSNS to the Columbia load center. This analysis demonstrated that, despite these upgrades, the system would still experience significant overloaded lines and highly loaded lines, including lines carrying power out of the SCE&G system and into neighboring systems.

To address this remaining concern, SCE&G analyzed the effectiveness of constructing new 230kV lines from VCSNS to the Charleston load center. Power flow simulations showed that constructing two (2) 230kV lines would be required to carry an adequate portion of SCE&G's ownership in the proposed 1,117 megawatt Unit 3 to the Charleston load center. These additional facilities still resulted in some overloaded and highly loaded lines in the St. George and Charleston area. The construction of the additional transmission facilities I have previously described relative to the operation of Unit 3 resolves these issues.

Q. WHAT IS THE ESTIMATED COST OF THE PROPOSED TRANSMISSION FACILITIES RELATIVE TO VCSNS UNIT 3?

A. The total cost of construction for these transmission facilities, assuming an escalation in cost of 4% per year, is $355,236,000. As adjusted to reflect

the appropriate contingency and escalation in the Handy-Whitman All Transmission Plant Index, South Atlantic Region and removal of switchyard costs included in the EPC Contract, the estimated cost is $501,818,982. This is the amount of the transmission cost which is reflected in Exhibit F to the Combined Application. SCE&G anticipates that these facilities would be constructed and in service by the end of year 2018.

Q. HAS SCE&G DETERMINED THE SPECIFIC ROUTES THE TRANSMISSION LINES WILL FOLLOW?

A. Not at this time. The Company believes the general routes I have described are the most appropriate to safely and reliably serve its customers. However, SCE&G manages the transmission siting process to preserve its flexibility to respond to changing conditions on its system and changing loads and load-use patterns. For that reason, SCE&G does not establish specific routes for new transmission facilities until close to the time of final design, siting approval, and construction of the lines. The Company is following that practice here. Specific routes for these lines will be selected in future years. Nonetheless, the transmission facilities and cost projections discussed in my testimony are reasonable and attainable. They are a reliable basis on which to establish cost projections in this proceeding. SCE&G's initial analysis demonstrates that the 230kV transmission lines for Unit 2 could largely follow portions of existing SCE&G corridors by constructing new structures, moving

existing structures, widening existing rights-of-way and/or acquiring new corridors. The Company projects that the 230kV lines for Unit 3 would generally require new corridors, but could follow existing corridors where practicable and as determined by the SCE&G siting processes.

Q. PLEASE EXPLAIN SCE&G'S SITING PROCESSES.

A. As the Commission is aware from many siting applications filed by SCE&G, the Company's longstanding procedures provide controls to ensure the protection of important environmental concerns, including the impact on terrestrial and aquatic ecosystems, habitats, and native species. SCE&G also has a history of working with both state and federal regulatory agencies to ensure locations of state and federal lands and ecologically sensitive areas are factored into siting new lines. Additionally, the Company takes into consideration issues of public concern such as safety, noise and visual appearance. In order to assist with addressing these issues during the siting process, SCE&G holds several public workshops and hearings in the affected areas in an attempt to resolve these issues when possible. Further, the Company notifies all landowners that may potentially be affected by the proposed routes so that they might provide input into the process in the hopes of resolving any concerns or disputes.

Q. IS SCE&G REQUESTING THAT THE COMMISSION APPROVE THE SITING OF THESE TRANSMISSION LINES WITHOUT CONDUCTING THESE STUDIES?

A. No. The information I have set forth regarding the proposed facilities is intended to provide the Commission with information regarding the anticipated components of capital costs and the anticipated schedule for incurring them. Once SCE&G has conducted a comprehensive line siting study and determined the final route of the proposed transmission lines, the Company will initiate a separate proceeding with the Commission seeking a Certificate of Environmental Compatibility and Public Convenience and Necessity to construct and operate these transmission lines. At that time, SCE&G will propose the specific route on which the lines will be sited and provide the results of its studies for the Commission's consideration.

Q. WHILE THE IMPACT OF A SPECIFIC ROUTE HAS NOT BEEN DETERMINED, HAS SCE&G CONDUCTED ANY ENVIRONMENTAL ANALYSIS CONCERNING THE PROPOSED TRANSMISSION FACILITIES?

A. Yes. Until the proposed generation facilities are approved and the specific routes for the new transmission corridors are sited, the specific environmental impacts can not be quantified. However, in accordance with the provisions of 10 CFR 52, Subparts B and C, SCE&G filed an application with

the United States Nuclear Regulatory Commission ("NRC") for a combined operating license to operate the two proposed generation units. In accordance with NRC regulations, SCE&G included in its application as Exhibit O an Environmental Report which analyzes the potential impacts to the environment resulting from the construction, operation, and decommissioning of the two additional nuclear power facilities at the VCSNS site and the related transmission facilities I have previously described. Specifically, as shown in Section 5.6 of the Environmental Report, SCE&G analyzed the environmental impacts of the transmission system during operation of the new units.

As is necessary with any utility facilities, the proposed transmission facilities would require routine maintenance to ensure that the Company could continue to provide safe and reliable electric service to its customers. SCE&G has established maintenance procedures for transmission systems which include routine inspections and vegetation trimming and clearing. The Environmental Report indicates that the operation of the transmission lines and the impact of these activities on the surrounding terrestrial and aquatic ecosystems, habitats and species would be small and that the Company's procedures would prevent impacts to water quality, be protective of wetlands and stream crossings and ensure that erosion and sedimentation are controlled along transmission corridors. Additionally, the Environmental Report shows that it is unlikely that any of the new lines would cross any state or national

parks, state or national conservation or wildlife refuges, or critical habitats for any federally listed species.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. SCE&G Transmission Planning has used a sound and systematic approach to identify the required transmission expansion associated with the proposed VC Summer generators. Applying the Generator Interconnection Procedures as described in FERC Order 2003, we identified the proposed transmission facilities in a step-by-step process to ensure that each facility is, in fact, required to reliably and cost effectively transmit the electric power from these proposed generators to SCE&G customers. I am confident that the transmission facilities discussed in my testimony are the least-cost, long-term solution for interconnecting these generators to the system and transmitting the power output of these generators to SCE&G customers while at the same time maintaining the reliability of the transmission system.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.